

## ABSTRACT

5           The present invention provides an apparatus, system and method for  
transmitting asynchronous transfer mode (ATM) data cells on an ATM adaptation  
layer (AAL) configured connection within an ATM system comprising a digital  
signal processor (DSP) sub-system (160) and a host processor (190). The  
transmitter interfaces directly with the DSP sub-system (160) (which converts the  
10       digitized voice samples into voice signals) and the host processor (190) (which  
performs AAL2 signaling and layer management functions). The transmitter is  
configured to interleave AAL2 voice packets from the DSP sub-system (160) and  
signaling and management packets from the host processor (190) on an ATM  
connection. Data is fetched by DMA(s) (415). A channel look-up table uses the  
15       DSP assigned voice channel as an index into the table to map a voice channel to  
the ATM connection.